

What is personalization worth for Netflix users? Evidence from a text-only and a mock VOD service choice experiment

Bartosz Jusypenko, Michał Paliński



WARSAW UNIVERSITY
Faculty of Economic Sciences



Association for
Cultural
Economics
Poland

Personalization vs. privacy: An inevitable trade-off?

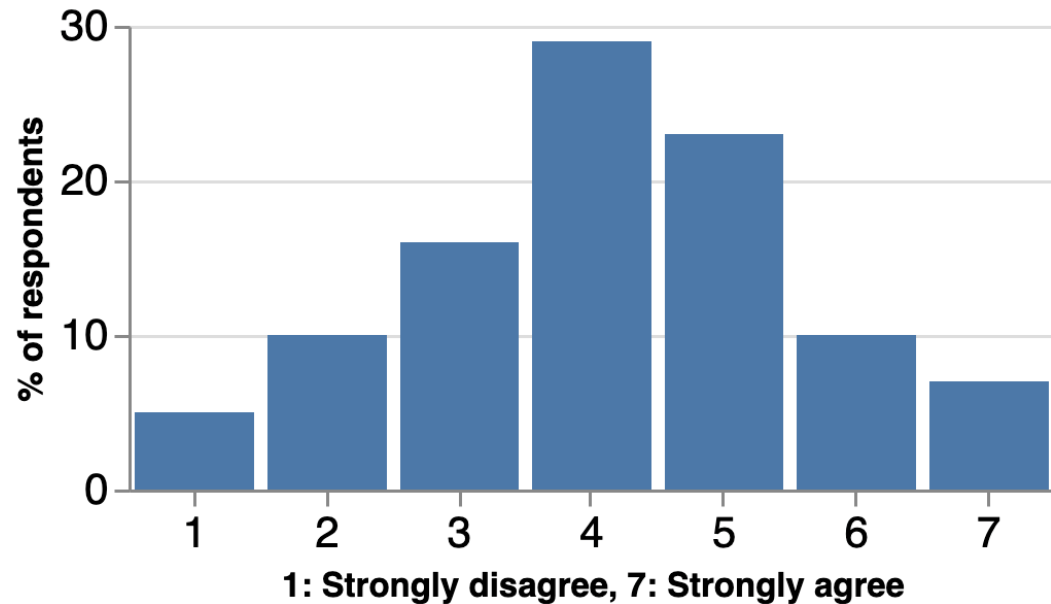
(Awan and Krishnan 2006; Aguirre et al. 2016)

- Status Quo – Netflix has gone from members choosing 2% of the recommended movies to 80% today (Biddle 2021).
- Personalization-privacy paradox:
 - Individuals continue to engage with personalized services despite expressing concerns.
 - Privacy is valued but willingly compromised for benefits such as time and effort savings, improved user experience, and enhanced content discovery.

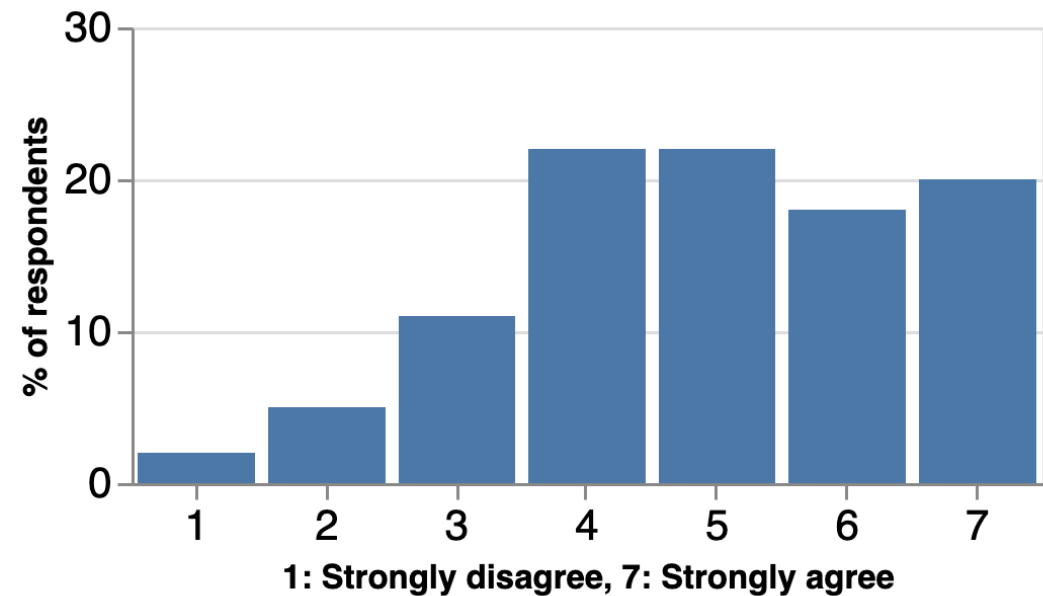
We develop and use our recommender system because we believe that it is core to our business (Netflix 2021).

Stated satisfaction

Netflix recommendations usually align with my taste.



I usually know what I want to watch on Netflix without relying on recommendations.



If you could decide, would you share this data with Netflix for personalized recommendations?

- NO:



27%



27%



83%

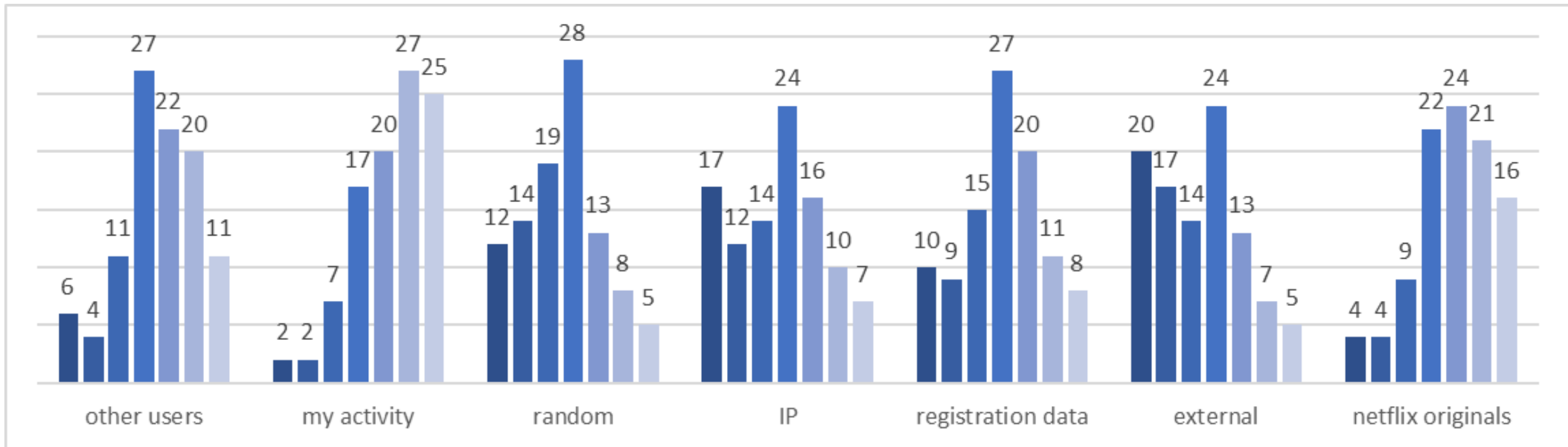


58%



85%

To what extent do you think the presented content is based on...?



Does Netflix follow you on socials?

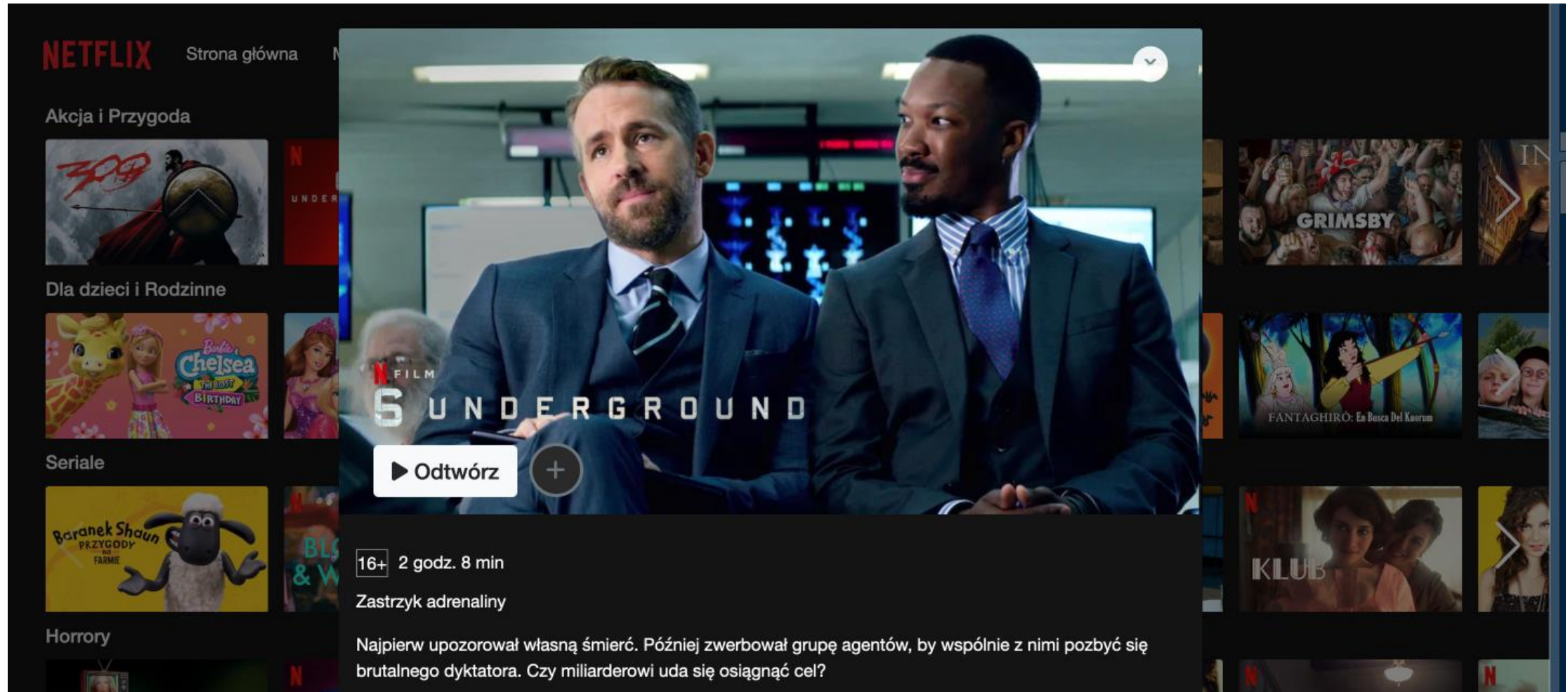


- **Information from other sources:** We also obtain information from other sources. We protect this information according to the practices described in this Privacy Statement, plus any additional restrictions imposed by the source of the information. These sources vary over time, but could include:
 - service providers that help us determine a location based on your IP address in order to customize our service and for other uses consistent with this Privacy Statement;
 - security service providers that provide us with information to secure our systems, prevent fraud and help us protect the security of Netflix accounts;
 - payment service providers that provide us with payment or balance information, or updates to that information, based on their relationship with you;
 - publicly-available sources such as publicly available posts on social media platforms and information available through public databases associating IP addresses with internet service providers (ISPs);

Source: <https://help.netflix.com/legal/privacy>

- Data-driven company? What beyond personalization?

Do you know what would happen if you did not share this data?



The image shows a screenshot of the Netflix website interface. The main focus is on the movie '5 Underground', which is displayed in a large central window. The movie's title '5 UNDERGROUND' is overlaid on a scene featuring Ryan Reynolds and Ice Cube. Below the title, there is a play button icon and the text 'Odtwórz' (Play). To the right of the play button is a plus sign icon. Below the play button, the movie's rating '16+' and duration '2 godz. 8 min' are shown, followed by the tagline 'Zastrzyk adrenaliny' (Adrenaline injection). At the bottom, a synopsis reads: 'Najpierw upozorował własną śmierć. Później zwerbował grupę agentów, by wspólnie z nimi pozbyć się brutalnego dyktatora. Czy miliarderowi uda się osiągnąć cel?' (He first pretended his own death. Later he recruited a group of agents to help him get rid of the brutal dictator. Can the billionaire achieve his goal?).

NETFLIX Strona główna

Akcja i Przygoda

Dla dzieci i Rodzinne

Seriale

Horror

GRIMSBY

FANTAGHIRO: En Busca Del Kaurum

KLUB

5 UNDERGROUND

Odtwórz

16+ 2 godz. 8 min

Zastrzyk adrenaliny

Najpierw upozorował własną śmierć. Później zwerbował grupę agentów, by wspólnie z nimi pozbyć się brutalnego dyktatora. Czy miliarderowi uda się osiągnąć cel?

Data collection: choice experiments (2023)

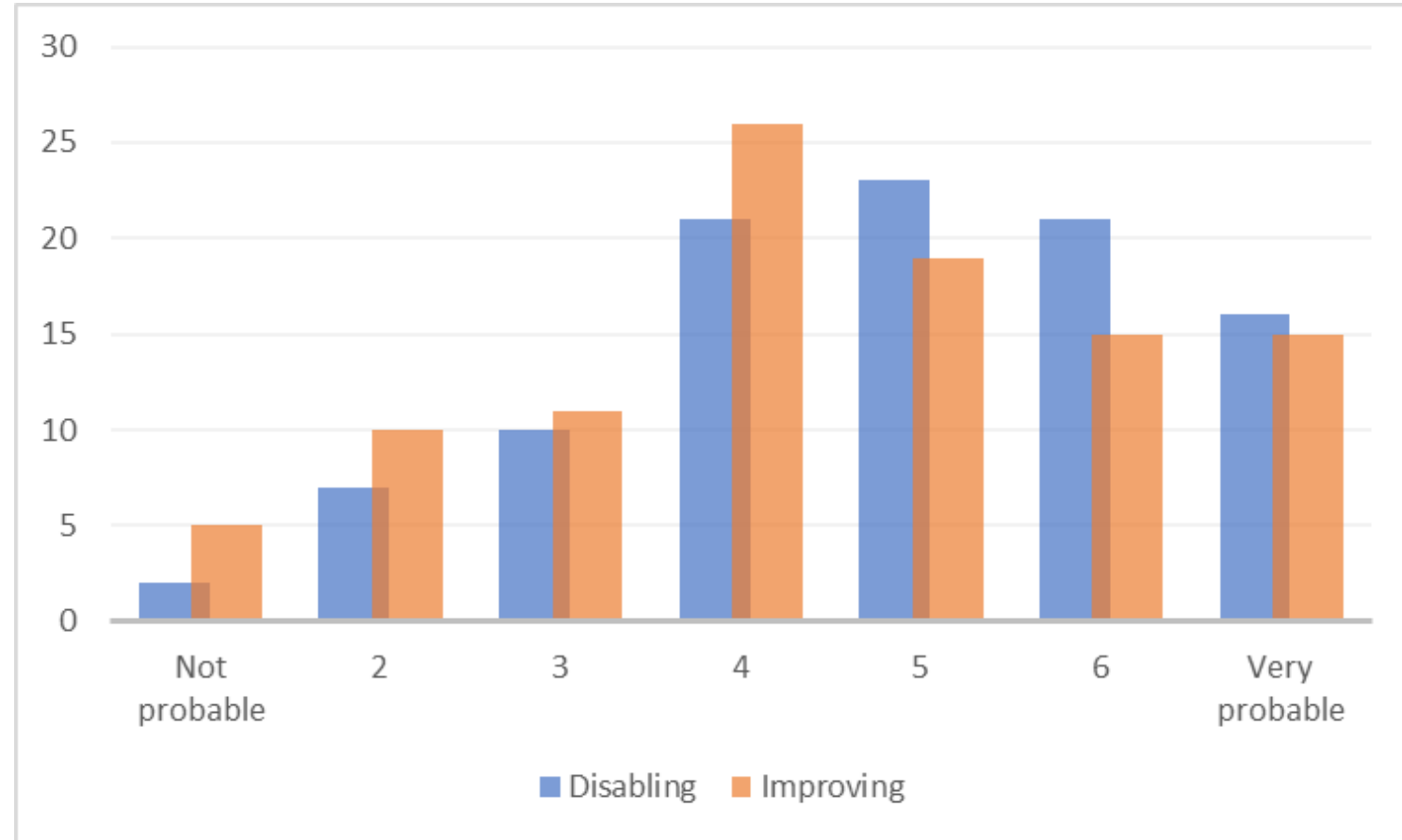
- Choice Experiment 1
 - Data for money?
 - Choice Experiment 2
 - Data for convenience?
 - Two presentation formats:
 - Text-only experiment;
 - Mock App experiment
- Screening:
 - Netflix user,
 - At least one family member contributes to the subscription.
 - Professional polling agency, June 2023, CAWI;
 - N=50 (pilot study), N=1003 (text-only DCE), N=216 (mock DCE)
 - Representative (gender and age);

Credibility of hypothetical scenarios? New EU regulation to be introduced






















1. Consent needed for the use of data for internal purposes,
2. Consent needed for the use of data for internal purposes, and to provide the service.

Increased credibility:



















- Subscription plans in other countries,
- Ongoing regulatory debate,
- Payment vehicle to reduce protest votes;



Experiment 1: Data for money

		DATA USAGE	
Ratings			
Browsing history			
Gender and age			
Location			
Online activity			
		ADS	
Ads	 Non-Personalized Ads	 No Ads	 No Ads
Ads time	1 minute	0 minutes	0 minutes
		DISCOUNT	
Discount	-17 PLN	-13 PLN	0 PLN
	 Plan 1	 Plan 2	 Plan without user data usage

Experiment 1: Data for time/convenience

		DATA USAGE	
Ratings			
Browsing history			
Gender and age			
Location			
Online activity			
Movie selection	18 minutes shorter more likely satisfying	13 minutes shorter more likely satisfying	Selection from a random catalog of movies and shows
	 Improved recommendation system 1	 Improved recommendation system 2	 Disabling the recommendation system

Results: Data for money

- MXL, WTP Space, 1000 Sobol draws;
 - 1 PLN = 0.25 USD;
- Substantial preference heterogeneity;
 - MU>0 from „internal sharing”
 - Very sensitive to the use of data from external sources;
 - Against ads, and particularly personalized ads;
 - Significant effect of the (experiential) presentation format;

Table 1. Results of the MXL (WTP space, in PLN)

var.	dist.	<i>Mean effect</i>		<i>St. deviation</i>	
		coef.	st. err.	coef.	st. err.
<i>Ratings</i>	n	6.448 ***	1.423	12.379 ***	1.65
<i>Browsing history</i>	n	6.339 ***	1.055	-13.371 ***	1.129
<i>Gender and age</i>	n	-4.102 ***	0.932	-2.271 *	1.697
<i>Location</i>	n	-4.579 ***	0.893	-9.749 **	4.131
<i>Socials</i>	n	-10.968 ***	1.574	12.542 ***	1.952
<i>Pers. Ads</i>	n	-7.117 ***	1.429	18.87 ***	1.567
<i>Ads Time</i>	n	-1.953 ***	0.477	2.651 ***	0.5
<i>Discount</i>	n	0.082 ***	0.01	-5.146 ***	0.01

Mock Netflix effect:			
var.		coef.	st. err.
<i>Pers. Ads</i>		-5.146 ***	3.187
<i>Ads Time</i>		-0.949 *	0.949

Note: ***, ** and * indicate 1%, 5% and 10% significance levels, respectively. *n* and *ln* indicate a random parameter distribution (either normal or log-normal).

Results: Data for convenience

- MXL, Preference Space, 500 Sobol draws;
- Time ->
 - „I am not an average user” effect”?

- MU>0 from protecting data -> consistent with the previous experiment;
- Substantial preference heterogeneity
 - SD close to mean effects !!!
- V. ambiguous effect of the „Mock App” experience;

Classes? ->

Table 1. Results of the MXL (Preference space)

var.	dist.	<i>Mean effect</i>		<i>St. deviation</i>	
		coef.	st. err.	coef.	st. err.
<i>ASC (disabling personalization)</i>	n	-2.053 ***	0.217	4.566 ***	0.303
<i>Gender and age</i>	n	0.563 ***	0.06	0.188 *	0.112
<i>Location</i>	n	0.773 ***	0.068	-0.41 **	0.176
<i>Socials</i>	n	1.063 ***	0.080	-0.924 ***	1.952
<i>Time & Convenience</i>	n	-0.053 ***	0.014	0.423 ***	0.03
Mock Netflix effect:					
var.		coef.	st. err.		
<i>ASC (disabling personalization)</i>		0.882 *	0.611		
<i>Time & Convenience</i>		-0.082 **	0.046		

Note: ***, ** and * indicate 1%, 5% and 10% significance levels, respectively. *n* and *ln* indicate a random parameter distribution (either normal or log-normal).

Results: Data for convenience (3-LC)

- LC, Preference Space, 3 classes;

Class 1 – *now is good*
 Class 2 – *let's improve*
 Class 3 – *you won't get my data!*

Table 1. Results of the 3-class LC model (Preference space)

Mean effects:		<i>1 CLASS</i>		<i>2 CLASS</i>		<i>3 CLASS</i>	
var.	dist.	coef.	st. err.	coef.	st. err.	coef.	st. err.
<i>ASC (disabling personalization)</i>	n	-2.0 ***	0.105	-1.434 ***	0.426	2.517 ***	0.178
<i>Gender and age</i>	n	-0.781 ***	0.07	1.01 ***	0.214	-2.83 ***	0.375
<i>Location</i>	n	-1.053 ***	0.072	0.996 ***	0.233	-2.299 ***	0.343
<i>Socials</i>	n	-1.326 ***	0.094	0.945 ***	0.233	-3.001 ***	0.442
<i>Time & Convenience</i>	n	-0.025 ***	0.009	0.175 ***	0.03	0.028 ***	0.015
Delta				-0.942 ***	0.088	-0.295 ***	0.067
<i>Mean prob.</i>		0.4685		0.1826		0.3489	

Note: ***, ** and * indicate 1%, 5% and 10% significance levels, respectively.

Conclusions

- Discrepancy between user stated preferences and the perspective presented by Netflix executives.
- Data other than ratings and browsing history remains sensitive.
- Discounts to incentivize users to share more data.
- Users are much more likely to accept random ads than personalized ads.
- Stated preferences may hinge on „experienced disutility”.
- Substantial preference heterogeneity regarding the personalization-privacy trade-off.
- Next steps – one more wave with more intensified „in-app” experience.

Thank you for your attention!

Bartosz Jusypenko

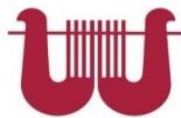
b.jusypenko@uw.edu.pl

Michał Paliński

m.palinski@delab.uw.edu.pl



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